

IN THE CLAIMS:

Please amend the claims as follows:

1-2 (Cancelled).

3. (Currently Amended). ~~The method of claim 2 further comprising~~ A method of making a photonic via comprising:

making a hole in a substrate, wherein the hole extends from one side of the substrate through the substrate to an opposite side of the substrate;

heating the substrate to expand the hole;

inserting a fiber optic into the hole;

cooling the substrate to contract the hole to hold the fiber optic in place;

polishing the substrate;

~~depositing~~ applying a polymer on top of the fiber optic; and

curing the polymer to form a lens.

4-25 (cancelled).

26 (Currently Amended). The method of claim ~~4~~ 3 wherein the heating temperature is dependent on the coefficient of thermal expansion of the

substrate.

27 (Previously Presented). The method of claim 26 further comprising heating the substrate to approximately 150-200 degrees C.

28 (Cancelled).

29 (Currently Amended). The method of claim 3 ~~28, wherein forming the waveguide comprises:~~ further comprising:

forming a waveguide having an angled surface to redirect light in a direction substantially perpendicular to the fiber optic, comprising:

depositing a cladding layer over a surface of the substrate;

etching to align the cladding layer with one side of the hole on the substrate;

depositing a layer of optical material over the cladding and the substrate wherein a difference in height between the cladding and the substrate causes the optical material to form a surface having approximately a 45 degree angle over the hole.

30 (Previously Presented). The method as recited in claim 29 wherein the optical material comprises glass.

31 (Currently Amended). ~~The method as recited in claim 28, further~~

~~comprising:~~ A method of making a photonic via comprising:

making a hole in a substrate, wherein the hole extends from one side of

the substrate through the substrate to an opposite side of the substrate;

heating the substrate to expand the hole;

inserting a fiber optic into the hole;

cooling the substrate to contract the hole to hold the fiber optic in

place;

polishing the substrate; and

forming a waveguide having an angled surface to redirect light in a

direction substantially perpendicular to the fiber optic, comprising:

depositing a cladding layer on the substrate, ~~wherein the hole~~
~~extends through the cladding layer;~~

depositing a layer of optical material over the cladding;

depositing a mask on the optical material with an opening over
the hole; and

etching to form at least one angled surface in the optical
material.

32 (Previously Presented). The method as recited in claim 31 further

comprising:

etching to form two angled surfaces in the optical material.